The Russian River Bulletin

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Mission Statement:

To facilitate communication, coordination, and cooperation on issues affecting the Russian River and its Watershed

Inside This Issue:

Mosquito and Vector Control District News- Fighting the Spread of West Nile Virus

By Jim Wanderscheid, District Manager, Marin/ Sonoma Mosquito and Vector Control District

The year 2003 marked the 88th anniversary of the Marin/Sonoma Mosquito and Vector Control District. The District has changed dramatically throughout the years since its inception in 1915. The District's scientific and technical staff performs many duties including monitoring and controlling vector populations, species identification, and disease surveillance utilizing a variety of field and laboratory techniques. Within the District boundaries, there have been no confirmed human cases of St. Louis encephalitis (SLE), Western Equine encephalomyelitis (WEE), or West Nile Virus (WNV) during 2002 and so far in 2003.

In the summer of 2003, a very unique problem presented itself to the District regarding mosquito control. A non-native perennial herb, *Ludwigia hexapetala (*commonly known as water primrose), had become a serious problem in many areas of the Laguna de Santa Rosa. The invasive plant has robust growth habits, and formed dense mats of vegetation that began to protect the larval mosquito population from natural predators such as mosquito fish (*Gambusia affinis)* and dragonfly nymphs. The dense mats of vegetation left no other options for controlling the larval mosquito population except to treat the water with larvicides. This treatment took place on two separate occasions using a bio-rational larvicide on approximately 112 acres. This was a necessary action in order to stop the explosive production of three species of mosquitoes that are the prime vectors of West Nile Virus.

Methoprene, an insect growth regulator (IGR), was applied during the first treatment. This material is a bio-rational control agent that interrupts the mosquitoes' normal growth process, as it mimics the mosquitoes' juvenile growth hormone. Mortality typically occurs in the pupal stage, resulting in the absence of adult mosquitoes that can bite and reproduce. Unlike conventional chemical pesticides, methoprene is not a direct toxin. It is target-specific and does not harm mammals, waterfowl, or beneficial predatory insects. In fact, methoprene has been recommended by the World Health Organization for use in drinking water supplies to control container-breeding mosquitoes in developing countries.

As the District was unable to get the results needed to break the cycle of mosquito production, a second treatment was deemed necessary. The material of choice this time was *Bacillus sphaericus*, which is a bacteria and is classified as a delta-endotoxin. In the crystalline state, the delta-endotoxin is considered a protoxin because the digestive juices of the target organisms must activate it. Once ingested by the mosquito, the alkaline conditions of the stomach dissolve the crystal and release the endotoxin resulting in mortality.

Treatment of the mosquito population was made more difficult because of the inability of getting the material through the dense mats of the *Ludwigia's* vegetation and into the water. In order to accomplish this, the district used a

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Mendocino County Water Agency - A New Beginning

By Roland Sanford, Executive Director, Mendocino County Water Agency

The Mendocino County Flood Control and Water Conservation District (MCFC&WCD), the predecessor to the Mendocino County Water Agency (MCWA), was formed in 1949 by an act of the State Legislature. Although technically a special district, the MCFC&WCD was administered by the County Administrative Officer through the Public Protection and Natural Resources or Public Works Department. In this capacity, the MCFC&WCD used nominal tax revenues to address flood control issues in the county and to provide limited hydrologic consulting and miscellaneous services to water districts in the county.

In 1987, California Assembly Bill 2068 amended the original act, officially changing the name of the MCFC&WCD to the Mendocino County Water Agency and establishing it as a special district – autonomous of other county departments. However, the level of funding and support of the agency remained unchanged. The MCWA continued to provide limited flood control services and in the 1990's became increasingly involved with watershed management and habitat protection issues, but remained largely inactive with respect to water supply. Although the availability (or in this case unavailability) of water supplies for agricultural and municipal purposes has been a long standing issue in Mendocino County, particularly within the Russian River drainage, it was not until February of this year that the MCWA was even directed to become involved with water supply issues in any significant way.

On February 4, 2003, the Mendocino County Board of Supervisors, acting in the capacity of the Mendocino County Water Agency Board of Directors, passed Resolution Number 03-032, which among other things, directs the MCWA "to assume a leadership role in addressing water related matters in Mendocino County, including the protection and restoration of watersheds, water conservation, reuse and recycling, water quality, the development of new water, the protection, restoration and enhancement of habitat, and restoration of fisheries." Funding for the MCWA has been increased and a permanent General Manager has been hired. As a part of this "new beginning," the University of California Cooperative Extension (UCCE), on behalf of the Water Agency Board of Directors, is conducting a "Situational Analysis" to define the appropriate structure and focus of the new MCWA, and to determine how the MCWA should address the unmet water resource management needs of the County.

Resolution 03-032 directs the Mendocino County Water Agency "to assume a leadership role in addressing water related matters in Mendocino County, including the protection and restoration of watersheds, water conservation, reuse and recycling, water quality, the development of new water, the protection, restoration and enhancement of habitat, and restoration of fisheries."

While many aspects of the MCWA's form and function remain undefined, it is assumed in the Situational Analysis that the MCWA will not "take over" the water rights and water distribution responsibilities of existing water purveyors in Mendocino County. Related to the issue of water rights and water distribution responsibilities is the raising of Coyote Dam on Lake Mendocino. The MCWA's role in the raising of Coyote Dam, and more specifically whether or not the MCWA should be designated as the "Local Sponsor" of a U.S. Army Corps of Engineers Feasibility study for the Coyote Dam project, has yet to be determined, due in part to the question of how a such a project (which is estimated to cost in excess of 100 million dollars) would be financed.

The RRB welcomes articles and items to include in the calendar of events. The deadline for the Winter 2004 issue is January 26th. Please send your submissions to: Russian River Bulletin, C/O Brian Michelsen, P.O. Box 11628, Santa Rosa, CA 95406 or call (707) 521-6203

(Fighting the Spread of West Nile Virus, continued from page 1)
granular form of each material. As the area itself is unreachable by land, a helicopter was used to apply the material. The total cost to the District for both of these treatments was $62,000.00. This included the cost of material, helicopter time, Sonoma State internship labor, and District personnel labor.

As this *Ludwigia* issue presents a very serious problem to the District and its residents, it also presents numerous issues for other agencies throughout the County. In response, these agencies have formed a task force to explore short-term and long-term solutions that will produce a positive benefit to the Laguna de Santa Rosa. Sonoma State University has formed an internship program in conjunction with the Marin/Sonoma Mosquito and Vector Control District that will help identify the plants and begin to understand how to deal with this water-weed.

As we continue to search for solutions to this problem, the District remains committed to keeping mosquito populations down and protecting the citizens from West Nile Virus.

For more information, contact Jim Wanderscheid, District Manager of the Marin/Sonoma Mosquito and Vector Control District at (800) 231-3236

Russian River Watershed Council Update

by Linda Curry, Coordinator, Russian River Watershed Council

The Russian River Watershed Council continues to work with the Community Foundation Sonoma County to identify potential funding sources for projects to protect and restore the Russian River Watershed. At the September 2003 meeting, the Council endorsed First Flush monitoring of local sub-basin watersheds by community volunteers. First Flush is a project of the North Coast Regional Water Quality Control Board that evaluates the impacts of storm runoff during the first storm event of the season.

Members also approved a listing of projects proposed for 2004 funding. These projects include:

-Stream cleanups in Mendocino and Sonoma counties as well as local watershed group cleanups
-Financial support for the Celebration of the Russian River to increase awareness of the Russian River as a local resource by having local communities participate in the celebration every September
-Financial support to maintain and operate the Russian River Interactive Information System when it is released to the public
-Additional publication of the Russian River resource directory being compiled by Sotoyome Resource Conservation District
-Willow Creek Channel Feasibility Analysis
-Storm-water education and public outreach by the Mendocino County Water Agency
-Public participation in recreational development of the Hansen property in Healdsburg with the goal of a permanent public meeting facility for river discussions.

As outlined in the scope of work for the Russian River Watershed Adaptive Management Plan, the following projects are planned for 2004: Hydrologic Regime Analysis, Evaluation of Floodplain Hydraulics, Watershed Sediment Regime Analysis, Evaluation of Riparian and Upland Habitat, Evaluation of Human Impacts on Watershed Resources, and Assessment of the Watershed's Surface and Subsurface Water Quality.

The scope of work for the Russian River Watershed Adaptive Management Plan will be evaluated by a technical panel between October 22-24. Once the review is completed, the next phase of the watershed management plan development can begin.

The Council invites interested members of the community with affiliations to economic or environmental organizations to consider joining the Council. Our next meeting is scheduled for November 15 from 9AM-1PM at Cloverdale Veterans Memorial Building. We will be finalizing our 2004 membership roster and goals at our January 2004 meeting. If you have questions or are interested in participating with the Council, please contact Linda Curry at steward rrwc.net or (707) 526-7865 or visit our website: www.rrwc.net.

An Interview with David Lewis - Watershed Management Advisor, University of California Cooperative Extension (Sonoma County Office)

RRB: Could you start off explaining the role of the University of California Cooperative Extension?

David Lewis (DL): The word "cooperative" in our organizational name is by design – it is an agreement of cooperation between the University of California and the county governments. The UC Cooperative Extension office (Cooperative Extension) is part of the Land Grant school system that was started by Abraham Lincoln. In 1914, the Smith-Lever Act really put the Extension component into the Land-Grant system, whereby university advisors were placed throughout the state to disseminate research and science-based education to the public. This created the opportunities for the advisors to address the specific needs of the county in working with agricultural, natural, and human resources issues. That includes advisors who work on diverse issues like invasive species, childhood obesity, pest management, and crop production.

RRB: And what are the specific responsibilities of your position?

DL: I have as a program goal: "The conservation and enhancement of watershed functions in a way that simultaneously provides for economic viability of natural resource and agricultural production." It's a lofty goal. But I think the two are integrated (watershed functions and economic viability) — I don't think they are exclusive. Geographically, I am an area advisor working across Mendocino, Sonoma, and Marin counties.

RRB: Could you talk a little about your educational background and what else you have done in your career before holding this position?

DL: I have actually been working with Cooperative Extension for six or seven years. When I finished my graduate degree at UC Davis, I began working for Cooperative Extension as a post-graduate researcher. That research was on water-quality management - working with landowners on identification and control of sediment delivery to the Garcia River. The tools we developed have been extended and shared throughout the region. Prior to doing that, I was a Peace Corps volunteer in Niger, West Africa working with rural farmers on soil conservation and water harvesting efforts in dry-land farming systems, and then was hired to train other Peace Corps volunteers. I also worked as a geologist for an environmental consulting firm in Contra Costa County.

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RRB: You have held this position since October 2000. What progress have you seen in the past three years concerning the health or water quality of the Russian River?

DL: It is really hard to assess what the long-term trends are for in-stream water quality in the Russian River. There are some good water quality databases that have some information and ability to make comment, but to really say whether there is an improving or declining trend in any one parameter is still very tenuous right now. This will continue to be the case because long term monitoring is difficult to fund and maintain. For example, what was thought of as a permanent and long-running record of stage flow by the U.S.G.S. is coming to an end, as more and more stations are being pulled out of the basin. So examples where we could do trend monitoring and where we could have 20-year records — we're leaving those monitoring stations behind. At the same time, there is a lot of good activity that is going on. There are many different agencies and organizations that are working with people to really understand how our activities interact with water quality

and watershed functions, and that are looking at how to improve those interactions to reduce any negative impacts. Examples include the water quality short courses that Cooperative Extension implements with dairy, ranch and vineyards managers, and similarly the Fish-Friendly Farming program that the Sotoyome R.C.D. is doing. And then there are also the larger institutional efforts that the Sonoma County Water Agency has done and continues to do — like monitoring fish populations, and the Mumford dam removal project going on now. Other efforts include the long time commitment of the Natural Resources Conservation Service to provide technical and financial assistance for implementation of natural resource conservation practices. There is a lot of great work going on —so I think in that way, you can say there is a lot of improvement. If you started 20 years ago and documented the amount of effort in site-by-site changes you could see improvements, but it is hard to answer that question without a long-term database.

RRB: What are some of the groups that you have worked with?

DL: The clientele that I work with is pretty diverse — they include agricultural and natural resource managers. I've worked with vineyard owners, beef and dairy ranch owners, and timber managers, and the other Cooperative Extension advisors also work extensively with all of those groups. I also work with watershed councils — right now we're helping to convene a technical panel that will assist the Russian River Watershed Council. The Council is in the process of developing a watershed management plan, and wants technical input on their scope of work for that management plan — to make sure that it was feasible before they make the next step of actually trying to get that plan written. We are helping them recruit and facilitate a meeting of the technical and scientific review panel to generate that input. We have also done some capacity building for smaller watershed councils and groups, helping them understand the components of a successful multiple stakeholder process. Sometimes with watershed councils and groups you manage expectations. I try to help them appreciate that it can take 3-6 years to actually show success, and that success has many different faces — from greater trust between stakeholders to conducting a public education program to implementation of a restoration project.

RRB: What are some of the greatest challenges you face in your position?

DL: I was hired because of my training in a science and my ability to be an educator, because that's what the Cooperative Extension looks for. And we are also hired to hopefully generate behavioral change through science-based education. To do that you have to understand where people are coming from and where they are going. I think that assumptions and expectations are the greatest hurdle for watershed management. I feel it is important to help people to better identify and realize opportunities instead of remaining positioned in their assumptions about what the causes of problems are. How we do that — and how we can begin to see problems as opportunities and get beyond our assumptions — is to me the biggest challenge. Another challenge is deciding what you can have an impact on. Doing a needs assessment and asking "What are the problems you're facing, what are the things you're not able to do?" will provide direction and insight about where assistance can have an impact. It also avoids duplication. A lot of time people have not had the chance to learn about all the work that has been done in the past 20 years and the benefits that it has provided. This past effort can be the springboard for future effort.

Watershed Management Program Background:

The Watershed Management Program provides scientifically based education to maintain viable natural resource management and agricultural production while conserving, protecting, and restoring watershed functions. Specific areas of program research and education include:

-Point and non-point source pollution management
-Links between agricultural and natural resource management practices and watershed beneficial uses

The Watershed Advisor collaborates with landowners, watershed-planning groups, and resource agencies to develop and implement scientifically sound watershed management plans and policies.

For more information, contact David Lewis at (707) 565-2621 or djllewis@ucdavis.edu.

The Atascadero Creek and Green Valley Creek Watershed Council

The Atascadero Creek and Green Valley Creek Watershed:

The Atascadero and Green Valley Creek Watershed is located in the southwestern section of the Russian River Watershed. Atascadero Creek, a third-order creek, flows in a northwesterly direction west of the towns of Sebastopol and Graton. It joins Green Valley Creek northwest of Graton, and then passes west of Forestville until its confluence with the Russian River upstream of the Hacienda Bridge and west of Mirabel Park. The Green Valley/Atascadero Creek Watershed drains a total land area of 55 square miles.

The watershed was heavily logged in the twenties and the fifties, but today the land uses are very diverse — including grazing, timber, and rural residential parcels, as well as many acres of land planted with orchards, vineyards, and vegetables. The watershed is almost entirely privately owned. Vegetation types present include Redwood and Douglas Fir forest, while the upper reaches of the watershed are interspersed with zones of grassland and oak-woodland.

The watershed contains a wild, self-supporting anadromous fish population -- fish surveys have found steelhead consistently and coho intermittently. In August of 2001, Green Valley Creek was one of four Russian River tributaries from which the California Department of Fish and Game and the National Marine Fisheries Service collected approximately 300 juvenile coho salmon to establish a brood stock at the Warm Springs Fish Hatchery for restoring coho salmon populations in the Russian River watershed.

The Atascadero Creek and Green Valley Creek Watershed Council:

In the summer of 2000, a group of people living in the Green Valley Creek and Atascadero Creek watersheds participated in a five-day residential intensive training at the Occidental Center for Arts and Ecology. The course, led by Brock Dolman, is designed to promote and support the creation of North Coast community-based watershed groups. One requirement for the course, entitled "Basins of Relations - Starting and Sustaining Community Watershed Groups," was that the participants were to round up interested parties and hold an introductory watershed group meeting.

The Atascadero Creek and Green Valley Creek Watershed Council (AGVWC) was thus born in September of 2000, bringing together a diverse assemblage of individuals and existing community groups under one organization. The mission statement of the AGVWC is as follows: *"Our mission is to bring together the people who live and work in our watershed to help each other in taking responsibility for our impact on the watershed through protection, restoration, and education."* The council is all-inclusive — meaning that anyone who has an interest in the health of the watershed is welcome to participate in the monthly meetings and receive ongoing communication and information via an e-mail list-serve. For the past year the number of people involved with the AGVWC has been stable at about 100 — mostly landowners, residents, and representatives from community or neighborhood groups — and 60 additional people subscribe to the informational e-mail list-serve.

Accomplishments and Goals:

Although it is still a relatively young organization, the AGVWC has already accomplished a number of significant projects, thanks to many hours of volunteer labor and in-kind donations:

Creek Cleanups:

This year, the AGVWC completed two successful Creek Cleanups — one in July and one in October. Local community members or property owners interested in trash removal for a certain section of the creek have come to AGVWC meetings to network with and learn from more experienced cleanup organizers.

Education Program:

In the Fall 0f 2002, the AGVWC began its pilot storm-water education program at Oak Grove School in Graton. Initially funded by a City of Santa Rosa Grant, this annual program teaches fifth graders about effects of urban runoff on the natural water cycle. Physical improvements to mitigate storm-water runoff on the school site are integrated into the program. Students participate in community investigations, classroom activities, mitigation planning, and outdoor workdays over the course of this two-month unit.

Community Outreach:

The AGVWC actively pursues outreach to the community and strives to serve as a hub of ecological information for the watershed. Community workshops have been held on a variety of subjects connected to watershed health. For instance, the council held a Sudden Oak Death workshop in conjunction with a native oak tree planting. Volunteers also distribute information at community fairs and events, including the West County Watershed Day.

> *"Our mission is to bring together the people who live and work in our watershed to help each other in taking responsibility for our impact on the watershed through protection, restoration, and education"*

CA Native Tree Plantings/Seed Propagation:

The AGVWC has planted numerous native trees and shrubs throughout the watershed (especially in riparian areas) with the goals of providing wildlife habitat, improving water quality, and combating erosion. In addition, the council provides assistance to people who want to grow native trees and plants from seed to plant in the watershed.

Water Quality Monitoring:

Members of the AGVWC have participated in a variety of water monitoring programs such as National Water Monitoring Day and the Russian River First Flush, which is sponsored by the California State Water Resources Board, the North Coast Regional Water Quality Control Board, and other state and local agencies.

Collaborations:

The success that the AGVWC has achieved thus far is in part due to its collaboration and networking among other watershed groups and with agencies interested in the health of the watershed.

West County Watersheds Network:

The AGVWC is a member of the West-County Watersheds Network, an informal alliance of watershed groups in the Western region of Sonoma County. The Network allows members of watershed groups and councils to network among themselves and to interact with governmental agencies and other watershed organizations. West County Watershed Day is an annual celebration and watershed education day organized by the Network. The group meets quarterly, and has an e-mail list for ongoing communication and information. (To join the Network, e-mail: WCWNetwork @yahoogroups.com.)

Russian River Interactive Information System:

Many residents in the Atascadero and Green Valley Creek watershed are interested in monitoring the levels and quality of surface water and groundwater in the basin. The AGVWC plans to utilize the Russian River Interactive Information System (RRIIS) to collect and store this data. Developed by the Russian River Watershed Council, the RRIIS will be an exciting resource for watershed groups and scientists as a site for public education, communication, and feedback. It will contain multiple databases to assist researchers with long-term data storage and sharing. RRIIS is due for public release in March 2004.

Gold Ridge Resource Conservation District:

The vision of the Gold Ridge Resource Conservation District is: "To ensure the continuation of strong, productive, and viable agricultural endeavors in Western Sonoma County by improving soil and water quality in order to provide an economically and ecologically viable and healthy agricultural community." Past Gold Ridge R.C.D. projects in the watershed include in-stream habitat enhancement, fencing, sediment control, and landowner education through on-going land use management plans. Under contract with Gold Ridge R.C.D., Laurel Marcus and Associates completed an extensive inventory of watershed conditions, land use, stream networks, and geology of the Atascadero Creek and Green Valley Creek Watershed. This Watershed Assessment was completed in conjunction with the AGVWC and other local citizens through a series of workshops. The Watershed Assessment can now be used as a resource to create a monitoring, management, and restoration strategy that is specific to the unique features of the watershed.

For more information about the AGVWC, contact Dr. Zeno G. Swijtink at (707) 823-1726 or swijtink@sonoma.edu. Visit the AGVWC website at: http://www.sonoma.edu/users/s/swijtink/other/AGVWCouncil/AGVWCouncil.htm

16th Annual Russian River Watershed Cleanup

The sixteenth annual Russian River Watershed Cleanup, a project of the Sonoma County Conservation Council, was held Saturday September 20th, 2003 in conjunction with the Coastal Cleanup. Community members cleaned up the river between Asti and the ocean by canoe and on foot. New this year was the Penny Island Cleanup. Refuse removed from the river included 228 tires, 4 TV sets and computer monitors, 2 refrigerators, 2 sinks, and many automobile parts. The trash totals are: 31 pounds of aluminum, 1086 pounds of glass, 86 pounds of plastic, one 20-yard debris box of metal, and two 20-yard debris boxes of non-recycled and unsorted trash.

Over 350 participants helped to clean the river on Saturday and to sort trash for recycling on Sunday. This number included students from Willowside Middle School, Westside School, as well as Healdsburg, Cloverdale, and Windsor high schools. Other participants included PG&E employees and their families, North Coast Regional Water Quality Control Board employees, Boy Scouts, Sequoia Paddling Club members, church groups, and community volunteers.

The watershed cleanup is coordinated by the Russian River Watershed Cleanup Committee. Sponsors include: Sonoma County Water Agency, Pacific Gas & Electric, Sunrise Garbage Service, Waste Management, Garbage Reincarnation, Inc., West Sonoma County Disposal Service, Integrated Waste Division of Sonoma County, Sonoma County Youth Probation Camp, Trowbridge Canoe Trips, Burke's Canoes, SOAR Inflatables, and Sequoia Paddling Club. In addition, this event is supported by Stewards of Slavianka, the Sonoma County Sheriff's Department River Patrol Section, the State Parks Department, Coastal Cleanup, Russian River Celebration, Cal Trans, Sprint Copy Center (Sebastopol) and Creative Images as well as other groups and individuals.

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